The impaired ratio of Interleukin (IL)-11: IL-17 in chronic periodontitis (CP) patients was shown in our previous study. In this study, we aim to investigate the levels of IL-11, IL-17 and their ratio in Gingival Crevicular Fluid (GCF) of rheumatoid arthritis (RA) patients compared to CP patients. CP (n = 40), RA (n = 30) and healthy controls (HC, n = 20) were included. CP and RA group were divided into two groups (a and b) according to gingival pocket/sulcus depths (PD) (a: PD ≥ 3 mm; b: PD ≥ 4 mm). For each patient, clinical parameter values were recorded. The GCF samples were evaluated by ELISA for IL-11
and IL-17 levels. The clinical parameter values, the cytokines’ total amounts, concentrations and ratio were evaluated. The total amount and concentration of IL-17 were higher in RA-a group than CP-a group ($P < 0.0125$). The total amount of IL-11 and IL-17 were found significantly higher in the RA-b group than the CP-b group ($P < 0.0125$). The total amount of IL-17 was significantly lower in HC group compared with both RA groups ($P < 0.0125$). The cytokine ratios were significantly higher in RA-b group than the CP-b group ($P < 0.0125$) and in HC group than the RA-a group ($P < 0.0125$).
None of the clinical parameter values presented significant correlations with the cytokines’ total amounts, concentrations and ratios ($P > 0.05$). The balance of the anti-inflammatory cytokine IL-11 and pro-inflammatory cytokine IL-17 might play an important role in periodontal pathogenesis of RA patients.